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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,027	04/26/2005	Devon Matthew Johnson	PU020450	2193

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EXAMINER	
NATNAEL, PAULOS M	
ART UNIT	PAPER NUMBER
2622	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,027	JOHNSON ET AL.	
	Examiner	Art Unit	
	Paulos M. Natnael	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,6,8-13,15,16 and 18* is/are rejected.

7)☒ Claim(s) *4,7,14,17,19 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims **1-3,5,6,11-13,15-16,18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno, U.S. 5,512,938.

Considering claims 1,2,11,12,18 Ohno discloses at teleconference terminal comprising a CPU and video codec and audio codec, synchronization slip control software. Ohno discloses the PC-based teleconference terminal 200 includes a PC 110 and a video codec unit 130, a network control unit 220 and an audio codec unit 240 which are all constructed on the same expansion board, with the video codec unit 130, the audio codec unit 240 and the network control unit 240 all connected to the computer bus 114 so as to be able to transfer audio data, video data, data and AV multiframes between themselves. The audio codec unit 240 is equipped with a[n] audio clock generation unit 241 for generating an audio sampling signal of 8 kHz through self-excited oscillation. The CPU 111 in the PC 110 executes frame alignment by executing the AV multiplexer/separator software 212 stored in the memory 112 and executes the AV multiframe conversion and separation for H series recommendation on the CCITT, as

well as adjusting any shortages or surpluses of reproduction audio data which arise due to synchronization slips between the audio sampling clock and the network clock by executing the synchronization slip control software 211. See Abstract of the disclosure.

Furthermore, Ohno teaches "... when the amount of audio code 441 or audio code 541 which is queued in the transmission audio buffer 440 or in the reception audio buffer 540 is below a value set as the low mark 433 or the low mark 533, the CPU 110 judges that such a synchronization slip will occur due to the shortage of audio data. Col. 7, line 17-22. Ohno further discloses *"The CPU 111 investigates whether there is an empty storage area in the reception video buffer 504 and in the reception audio buffer 540 (S704), and if there is, executes a lip-synch process, more specifically the delaying of the separated audio code 541 of about 10 msec with regard to the video code 505, and queues the video code 505 in the reception video buffer 504 and the audio code 541 in the reception audio buffer 540, respectively (S705)."* [emphasis added] See col. 15, lines 39 through col. 16 lines 64.

Ohno does not specifically disclose "adjusting the clocks". However, Ohno discloses the *lip-synch process as delaying the separated audio code of 10 msec with regard to the video code and, thus,* ,it would have been obvious to those with ordinary skilled in the art at the time the invention was made to readily recognize such delaying *process as adjusting the timing or clock because without adjusting the clocks the delaying operation may not be performed properly.*

As to claims **3,5,6,13,15,16**, Ohno teaches judging whether the buffer 540 is below a value set as the low mark 433 or the low mark 533. See col. 7, line 17 through col. 8, line 8. Ohno further teaches a high mark which is a predetermined upper limit. On col. 9, staring at line 42 Ohno discloses: "The audio synchronization control information 531 is the control information for compensating for the effects on audio reproduction caused by synchronization slips, and is made up of a high mark 532, a low mark 533 and an insertion segment pointer 534. (54) The high mark 532 shows the predetermined upper limit for use of the reception audio buffer 540, which is for overseeing the actual used amount of the reception audio buffer 540 during reception. For example, when the reception audio buffer 540 is capable of storing 8 pieces of audio code 541, and an upper limit for the storage of audio code 541 is set as 5 pieces, then the high mark 532 shows [5]. The low mark 533 shows the predetermined lower limit for use of the reception audio buffer 540, which is for overseeing the actual used amount of the reception audio buffer 540 during reception. For example, when the reception audio buffer 540 is capable of storing 8 pieces of audio code 541, and a lower limit for the storage of audio information 541 is set as 1 piece, then the low mark 533 shows [1]." [emphasis added] Therefore, Ohno impliedly discloses the mid-point limit because the skilled in the art would recognize the system of Ohno would able to easily calculate a mid-point from the given lower and upper limits, and thus make necessary adjustment in the clocks to maintain synchronization of the audio and video data.

3. Claims **8-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno, U.S. 5,512,938 in view of Fung, U.S. 5,949,410.

Ohno discloses synchronization of audio and video signals. Ohno does not specifically disclose the well known MPEG signal or HDTV audio/video synchronization; however Ohno discloses TV codec used in coding and decoding television signals (see col. 1). Fung teaches synchronizing audio and video frames in an MPEG presentation system. (Note that the teleconferencing system of Ohno is also a presentation system). It would have been therefore obvious to the skilled in the art at the time the invention was made to modify the video and audio synchronization of Ohno by providing the presentation system of Fung by adopting it to TV systems that utilize the MPEG and HDTV standards.

Allowable Subject Matter

4. Claims **4,7,14,17,19,20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments filed 10/02/06 have been fully considered but they are not persuasive. The applicant argues that Ohno only discusses a lip-synch process that delays the audio info about 10 msec with regard to the video info when buffering the audio and video information. Ohno does not discuss any other process to maintain

sync between the audio and video information. And that the audio sampling clock appears to fixed at a frequency of 8khz...As a result, the sync slip control software does not appear to have anything to do with maintaining sync between audio and video information.

The examiner disagrees. Ohno discloses a teleconference terminal comprising an A/V (Audio/Video) unit including video codec unit and audio codec unit. The said units comprise audio clock generator as well as video clock generator. "It is possible to conceive a system which does not make use of a separate AV unit 170, wherein a method for the transfer of video code and audio code is achieved with video and audio codec circuits being connected to an AV multiplexer/separator unit composed of software in the PC 110 via the computer bus 114 of the PC 110. However, under such a method, the audio sampling signal in the audio codec unit 140 for the generation of audio code will not be synchronized to the network clock for the ISDN line, so that when the generated video code and audio code are reproduced by the receiver, synchronization slips will occur. In such a case, since especially audio data is reproduced for serial bits, then there will be the problems of audio interference and gaps in the audio signal. " Col. 3, line 66 through col. 4, lines 12. It is obvious that Ohno offers a solution to solve the synchronization problems that may occur in such a situation. Furthermore Ohno discloses "when the amount of audio code 441 or audio code 541 which is queued in the transmission audio buffer 440 or in the reception audio buffer 540 is below a value set as the low mark 433 or the low mark 533, the CPU 110 judges that such a synchronization slip will occur due to the shortage of audio data."

Col. 7, lines 17-22. The amount of slip (corresponding to the claimed drift) is calculated by the CPU when the predetermined value set (corresponding the threshold level) is reached. As to the argument that the audio sampling clock appears to fixed at a frequency of 8khz, note that Ohno also utilizes a PLL audio clock generation unit 941 circuit (figure 10) which includes variable crystal oscillator 1010.

Ohno discloses *"The CPU 111 investigates whether there is an empty storage area in the reception video buffer 504 and in the reception audio buffer 540 (S704), and if there is, executes a lip-synch process, more specifically the delaying of the separated audio code 541 of about 10 msec with regard to the video code 505, and queues the video code 505 in the reception video buffer 504 and the audio code 541 in the reception audio buffer 540, respectively (S705)."* [emphasis added] See col. 15, lines 39 through col. 16 lines 64. Delaying the audio by about 10msec is indeed adjusting the clock. Such an operation cannot be performed without involving timing or clock of the system, as is well known in the art. Thus, the argument is unpersuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (571) 272-7354. The examiner can normally be reached on 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Paulos M. Natnael
Primary Patent Examiner
Art Unit 2622

December 26, 2006